

SCOPE OF WORK

For Geri Becker

Apr 1/2000

Project No.: 20.05444.01.001

PHASE I

Jotun will supply us the wax coating material as well as samples collected from various locations on the barge. Conduct the following:

1. Quality control test to determine if there is any microbiological contaminant in the virgin sample from the manufacturer.
2. Basic Taxonomical Tests, if there is contamination in the virgin samples, want to identify the genera involved. Specified media testing and microscopic identification, as required.
3. Second set of tests to be run concurrently, to test to see if the wax coating acts as a nutrient for the microorganisms involved.

For this test,

- add 50 ppm, 250 ppm, 500 ppm virgin coating ex pail to a sterile basal salt solution inoculated with the following micro-organism combinations: 4 cultures supplied by Bob Winters taken from the FMT 3003 Barge (e.g. aerobic APB, anaerobic APB, heterotrophic anaerobes, sulfate reducing bacteria), and one from Jack Smart, the HUMBug Test culture, containing Bushnell Haas Media for Hydrocarbon Utilizing Microorganisms.
- Tests will be run at the three wax concentrations for each sample individually and for a sample of all five mixed together.
- Test solutions will be cultured at 25°C, representing ambient temperature.
- A second wax emulsion coating will be provided by Jotun that contains no sulfonate addition, with the same tests run on that sample to determine if there are any differences between wax with and without sulfonate additions.

If the micro-organisms grow at these low concentrations, then they will also grow at higher concentrations (lesser conc's grow more quickly as organisms adapt more quickly at low concentrations).

Total Estimated Hours and cost:

170 hours

JUNE 2003

Statement of Work

Geri Becker, Applied Becker Consulting

Geri's main function is to provide microbial culturing, growth, and identification support for several projects. In this capacity, she is to continue to provide technical assistance in the form of consulting as well as laboratory work to facilitate our microbial corrosion projects.